DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No. 21-109779-LO

Project Name/Address: Shu and Bates Tree Removal 4411 164th Ln, 16567 SE 43rd St

Planner: David Wong
425-452-4282
DWong@Bellevuewa.gov

Minimum Comment Period: November 29, 2020

Materials included in this Notice:

- ☑ Blue Bulletin
- ☑ Checklist
- ☑ Vicinity Map
- ☑ Plans
- ☐ Other:

OTHERS TO RECEIVE THIS DOCUMENT:

- ☑ State Department of Fish and Wildlife
- ☑ State Department of Ecology, Shoreline Planner N.W. Region
- ☑ Army Corps of Engineers
- ☑ Attorney General
- ☑ Muckleshoot Indian Tribe

SEPA Checklist Reviewed By:
David Wong on 11-3-21

Development Services

SEPA Environmental Checklist

The City of Bellevue uses this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions

The checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully and to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions.

You may respond with “Not Applicable” or "Does Not Apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies and reports. Please make complete and accurate answers to these questions to the best of your ability in order to avoid delays. For assistance, see SEPA Checklist Guidance on the Washington State Department of Ecology website.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The city may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Background

1. Name of proposed project, if applicable Shu Tree Removal and Revegetation
2. Name of applicant Bruce Shu
3. Contact person Joseph Sutton-Holcomb Phone 206.457.9346
4. Contact person address 2940 Westlake Ave N #200, Seattle, WA 98109
5. Date this checklist was prepared 8/26/2021
6. Agency requesting the checklist City of Bellevue

DW

7. Proposed timing or schedule (including phasing, if applicable)

Tree removals proposed to occur in Fall 2021 (September-November 2021)

8. Do you have any plans for future additions, expansion or further activity related to or connected with this proposal? If yes, explain.

No, 2 trees are proposed for removal and associated revegatation is proposed, which would conclude the project. Revegetation plantings would be maintained and monitored for 5 years after initial revegetation planting.

9. List any environmental information you know about that has been prepared or will be prepared, that is directly related to this proposal.

Not applicable. No environmental information has been prepared.

10. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There are no pending applications of other proposals affecting the property in question to my knowledge

11. List any government approvals or permits that will be needed for your proposal, if known.

A permit from the City of Bellevue is required to remove trees in steep slope environmentally critical areas.

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12. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The proposed project involves the removal of 2 Douglas-fir trees (Pseudotsuga menziesii). The trees are 25.6 and 9.7 inches Diameter at Standard Height (DSH). The trees are numbered 374 and 375, and are tagged with corresponding numbered tags on the site. The project also proposes revegetation to replace lost canopy coverage of 1,331 sq feet. This area is calculated using the driplines of the trees removed, and assumes a circular dripline shape for both trees. 4 shore pine (Pinus contorta) trees and 24 understory plants are proposed to be planted as replacement for the lost ecological function resulting from the tree removals. The lower trunks (to 25 feet) and root systems of the trees are proposed to remain on the site to contribute to slope stability and provide niche wildlife habitat as standing dead wood.

13. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and the section, township and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The two trees in question are located on a steep slope area on Justin Bates' property (parcel 1324059047) and an adjacent parcel owned by the Palladian Point Homeowner's Association (parcel 132405TRCT). A site survey showing the tree locations has been provided to the City of Bellevue. Tree 374 is located on Justin Bates' property. Tree 375 is located on the parcel owned by the Palladian Point Homeowner's Association.

Environmental Elements

Earth

1. General description of the site:
   - ☐ Flat
   - ☐ Rolling
   - ☐ Hilly
   - ☑ Steep Slopes
   - ☐ Mountainous
   - ☐ Other _____
2. What is the steepest slope on the site (approximate percent slope)? 40 percent or greater

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3. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Beausite gravelly sandy loam (Type C). The proposed project will not remove any soils, and the land has no existing agricultural or commercial uses. The project proposes to retain the lower trunks, stumps and roots of the trees proposed for removal to mitigate impacts to soils, and revegetation will be done using hand tools to eliminate the need for machinery disturbance on the steep slope.
Alderwood gravelly sandy loam (AgD), Beausite gravelly sandy loam (BeD)

4. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No. Geo Group Northwest Inc. of Bellevue, WA studied the soils in the area in 1994. They concluded that no landslide deposits are mapped, and the underlying bedrock and glacial till site soils are very dense and not susceptible to deep-seated sliding, though superficial sliding could occur. I observed signs of minor soil erosion on site.

5. Describe the purpose, type, total area and approximate quantities and total affected area of any filling, excavation and grading proposed. Indicate the source of the fill.

No filling, excavation, or grading is proposed in association with this project.

6. Could erosion occur as a result of clearing, construction or use? If so, generally describe.

Minor erosion could potentially result due to the loss of tree canopy and disturbance from replanting activity. However, the submitted revegetation plan provides specifications for controlling the erosion, and the proposed replacement plantings will provide foliar coverage and root anchoring as they establish on the site.

7. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? 0% No impervious surfaces are proposed.

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8. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Coir logs and jutte matts will be installed on the slope to limit erosion. Woodchip mulch will also be used to cover exposed soil in the areas for replanting. All work will be done with hand tools to eliminate machine traffic. The lower trunks and root systems of the trees are proposed to remain so the trees' root systems can continue to provide stability to the slope.

Erosion control regulated by BCC 23.76

Air

1. What types of emissions to the air would result from the proposal during construction, operation and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

carbon emissions from chainsaws and other handheld power equipment will occur, but will be limited to 1-3 days of intermittent work.

2. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No off-site emissions or odors will occur as a result of this project.

3. Proposed measures to reduce or control emissions or other impacts to air, if any.

Not applicable. See above.

Water

1. Surface Water
   a. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

   There are two streams located 300 to 400 feet from the two trees proposed for removal. Both are associated with the West Lake Sammamish basin and are part of the Sammamish River Watershed. The WRIA number for both streams is 8, and the WRIA name is Cedar-Sammamish

   b. Will the project require any work over, in or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

   The proposed project does not require work within 200 feet of either stream.

   c. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of the fill material.

   No fill and dredge material will be placed in or removed from either stream.

   d. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose and approximate quantities, if known.

   No surface water withdrawals or diversions are proposed.

   e. Does the proposal lie within a 100-year floodplain? No
   If so, note the location on the site plan.

f. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No discharge of waste materials to surface waters is proposed.

2. Ground Water

a. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Water from the City of Bellevue municipal system will be used to irrigate the replacement plantings during the summer months for a period of 5 years. The water will likely be drawn using a temporary irrigation system attached to a private spigot located on Bruce Shu's or Justin Bates' property.

b. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources.

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3. Water Runoff (including stormwater)
   a. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater flows downslope during rain events on the property in question, likely into the two streams discussed earlier that are part of the West lake Sammamish basin. The proposed project will not significantly alter the flow of stormwater or runoff. A minor temporary loss of stormwater interception will occur due to removal of evergreen canopy volume. New plantings and mulch will cover exposed soils and provide some stormwater interception.

   b. Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials from the proposed project will enter ground or surface waters.

   c. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Minor changes to stormwater movement and drainage on the site may occur due to loss of canopy, but these will be temporary and mitigated by erosion control measures and installation of replacement plantings.

Indicate any proposed measures to reduce or control surface, ground and runoff water, and drainage pattern impacts, if any.

Coir logs and jutte matts will be installed on the slope to limit erosion. woodchip mulch will also be used to cover exposed soil in the areas for replanting. All work will be done with hand tools to eliminate machine traffic. The lower trunks and root systems of the trees are proposed to remain in place so the trees' root systems can continue to provide stability to the slope.

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Plants

1. Check the types of vegetation found on the site:

- ☑ deciduous tree: alder, maple, aspen, other Red Alder, Bigleaf maple
- ☑ evergreen tree: fir, cedar, pine, other Douglas-fir
- ☑ shrubs
- ☑ grass
- ☐ pasture
- ☐ crop or grain
- ☐ orchards, vineyards or other permanent crops
- ☑ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other _____
- ☐ water plants: water lily eelgrass, milfoil, other _____
- ☑ other types of vegetation Invasive species including himalayan blackberry and reed canarygrass

2. What kind and amount of vegetation will be removed or altered?

Two evergreen coniferous trees (Douglas-firs) will be removed, and some invasive vegetation such as Himalayan blackberry and reed canary grass may be removed to accommodate the revegetation efforts.

3. List any threatened and endangered species known to be on or near the site.

~~Steelhead and Chinook Salmon within the Lake Sammamish watershed are the only listed species in proximity to this project, and the proposed work will occur over 300 feet away from any stream or body of water.~~

No threatened or endangered plant species mapped or known to be on-site.

4. Proposed landscaping, use of native plants or other measures to preserve or enhance vegetation on the site, if any.

The revegetation plan proposes to use exclusively native species, and all tree species proposed for replacement are native evergreens, which provide superior stormwater interception due to having foliage during the winter rainy season.

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5. List all noxious weeds and invasive species known to be on or near the site.

Himalayan blackberry, English Ivy, Reed Canary grass

Animals

1. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

   Birds: ☐hawk, ☐heron, ☐eagle, ☑songbirds, ☐other _____

   Mammals: ☑deer, ☑bear, ☐elk, ☐beaver, ☐other _____

   Fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other _____

2. List any threatened and endangered species known to be on or near the site.

Steelhead and Chinook Salmon within the Lake Sammamish watershed are the only listed species in proximity to this project, and the proposed work will occur over 300 feet away from any stream or body of water.

3. Is the site part of a migration route? If so, explain.

I was unable to find data related to bird migration at the proposed project location. I observed no eagle or other bird nests in the trees at the time of my site assessment. I did not perform a nesting bird survey as a part of my assessment.

This area is part of the Pacific Flyway migration route.

4. Proposed measures to preserve or enhance wildlife, if any.

By limiting the removal work to 1-2 days and using hand tools, wildlife disruption will be minimal. The addition of new native species via revegation has the potential to improve biodiversity on the site and provide food sources and shelter.

DW

5. List any invasive animal species known to be on or near the site.

None observed.

Energy and Natural Resources

1. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Mixed gasoline will be used to power 2-cycle engines in chainsaws and hedge trimmers.

2. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The proposed project will not affect potential use of solar energy by adjacent properties.

3. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

No energy conservation features are included in this proposal.

DW

Environmental Health

1. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill or hazardous waste, that could occur as a result of this proposal? If so, describe.

No environmental health hazards are associated with the proposed tree removals and revegetation.

a. Describe any known or possible contamination at the site from present or past uses.

No known past or present contamination issues.

b. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no existing hazardous chemicals or conditions that would affect this project.

c. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

No toxic or hazardous chemicals will be stored, used, or produced during this project.

DW

d. Describe special emergency services that might be required.

In the unlikely event of an injury during tree felling or replanting activity, emergency medical services would be required.

e. Proposed measures to reduce or control environmental health hazards, if any.

Not applicable.

2. Noise

a. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

No noise in the area would affect the project. The tree felling activity proposed would produce some noise for brief durations while chainsaws and hedge trimmers are operating.

b. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise from hand held power equipment would occur during normal business hours for 1-3 days.

c. Proposed measures to reduce or control noise impacts, if any.

No noise reduction measures should be necessary. The work will occur several hundred feet from the nearest home and will be of short duration. Any project noise will not occur during hours when noise restrictions are in place.

Noise regulated by BCC 9.18

DW

Land and Shoreline Uses

1. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

   The current use of the land is a vegetated natural area with several small infrequently used foot trails. The proposed scope of work will not affect this land use, nor would it affect the land use of adjacent properties.

   Residential uses on and adjacent to the two parcels.

2. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to non-farm or non-forest use?

   The site has not been used as working agricultural or forest land.

   a. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling and harvesting? If so, how?

      The proposed work will not affect or be affected by surrounding working farm or forest land.

3. Describe any structures on the site.

   One of the trees (394) proposed for removal is on a parcel with a single family residence (Justin Bates is the property owner). The other tree (395) is on a parcel with no structures currently existing.

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4. Will any structures be demolished? If so, what?

No structures will be demolished for this project.

5. What is the current zoning classification of the site? R 3.5

6. What is the current comprehensive plan designation of the site? ~~None~~ Single-Family Medium Density (SF-M)

7. If applicable, what is the current shoreline master program designation of the site?

Not Applicable.

8. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The area is classified as a Steep Slope Critical area on the City of Bellevue Map Viewer.

9. Approximately how many people would reside or work in the completed project? None

10. Approximately how many people would the completed project displace? None

11. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable.

12. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

Not applicable. The project will not disrupt existing and projected land uses and plans.

DW

13. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any.

No measures are proposed outside of efforts to mitigate any soil disturbance, erosion, and net loss of habitat associated with tree removals.

Housing

1. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Zero

2. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Zero

3. Proposed measures to reduce or control housing impacts, if any.

Not applicable, project is not related to housing development.

Aesthetics

1. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures are proposed.

2. What views in the immediate vicinity would be altered or obstructed?

Views of Lake Sammamish would be altered for my client Bruce Shu who resides at Location: 4423 164th Ln SE. The proposed project would provide an expanded view of the lake.

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3. Proposed measures to reduce or control aesthetic impacts, if any

Mitigation planting will ensure steep slope area is populated by native vegetation, which is consistent with the intended aesthetic of the site.

Light and Glare

1. What type of light or glare will the proposal produce? What time of day would it mainly occur?

No light or glare will be produced.

2. Could light or glare from the finished project be a safety hazard or interfere with views?

Not applicable. The project will not produce light or glare.

3. What existing off-site sources of light or glare may affect your proposal?

None.

4. Proposed measures to reduce or control light and glare impacts, if any.

Not applicable.

Recreation

1. What designated and informal recreational opportunities are in the immediate vicinity?

Residents of Palladian Point community occasionally use the trails in this critical area for recreation in the form of hiking and walking.

2. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed work would not displace any existing recreational uses. Current recreational use of the site is also not frequent.

DW

3. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

Not applicable. The proposed project will not impact recreation.

Historic and Cultural Preservation

1. Are there any buildings, structures or sites located on or near the site that are over 45 years old listed in or eligible for listing in national, state or local preservation registers located on or near the site? If so, specifically describe.

No. Both homes in proximity to the proposed project at 4423 and 4411 164th Ln SE were constructed in 1996. No other structures exist in proximity to the proposed project.

2. Are there any landmarks, features or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No landmarks or features have been visually identified on the site to my knowledge, nor has any material evidence been found to my knowledge. No professional studies have been conducted at the site to confirm this to my knowledge.

3. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

No assessment of impacts to cultural or historic resources has been done to date.

DW

4. Proposed measures to avoid, minimize or compensate for loss, changes to and disturbance to resources. Please include plans for the above and any permits that may be required.

No measures are proposed. However, work will require only limited shallow excavation (6-18 inches below grade) to facilitate the installation of new native vegetation.

Transportation

1. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

SE 44th Way and 164th Ave SE both provide access to Palladian Point, the community where the project is proposed to occur.

2. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No. The nearest public bus stop is approximately 0.9 miles away. No other forms of public transportation serve the site to my knowledge.

3. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Zero.

4. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The project will not require any such improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities.

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5. Will the project or proposal use (or occur in the immediate vicinity of) water, rail or air transportation? If so, generally describe.

The project will not use or occur in the vicinity of water, rail, or air transportation.

6. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

Tree removals: 2-3 vehicular trips over 1-2 business days
Revegetation (installation): 2-4 vehicular trips over 1-2 business days
Revegetation (maintenance): 1-2 vehicular trips per year for 5 years after planting.
All trips would utilize small trucks or vans. No vehicles with more than 2 axles would be used.

7. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The project will not interfere with the movement of agricultural or forest products.

8. Proposed measures to reduce or control transportation impacts, if any.

Not applicable.

DW

Public Service

1. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The proposed project will not increase need for any such services.

2. Proposed measures to reduce or control direct impacts on public services, if any.

Not applicable.

Utilities

1. Check the utilities currently available at the site:

- ☑ Electricity
- ☐ natural gas
- ☑ water
- ☑ refuse service
- ☐ telephone
- ☑ sanitary sewer
- ☑ septic system
- ☐ other

2. Describe the utilities that are proposed for the project, the utility providing the service and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities are proposed for this project aside from temporary irrigation lines, which will be installed above ground and tied into private hose spigots.

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Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature Joseph Sutton-Holcomb

Name of signee Joseph Sutton-Holcomb

Position and Agency/Organization Senior Arborist, Tree Solutions Inc.

Date Submitted 10/4/2021

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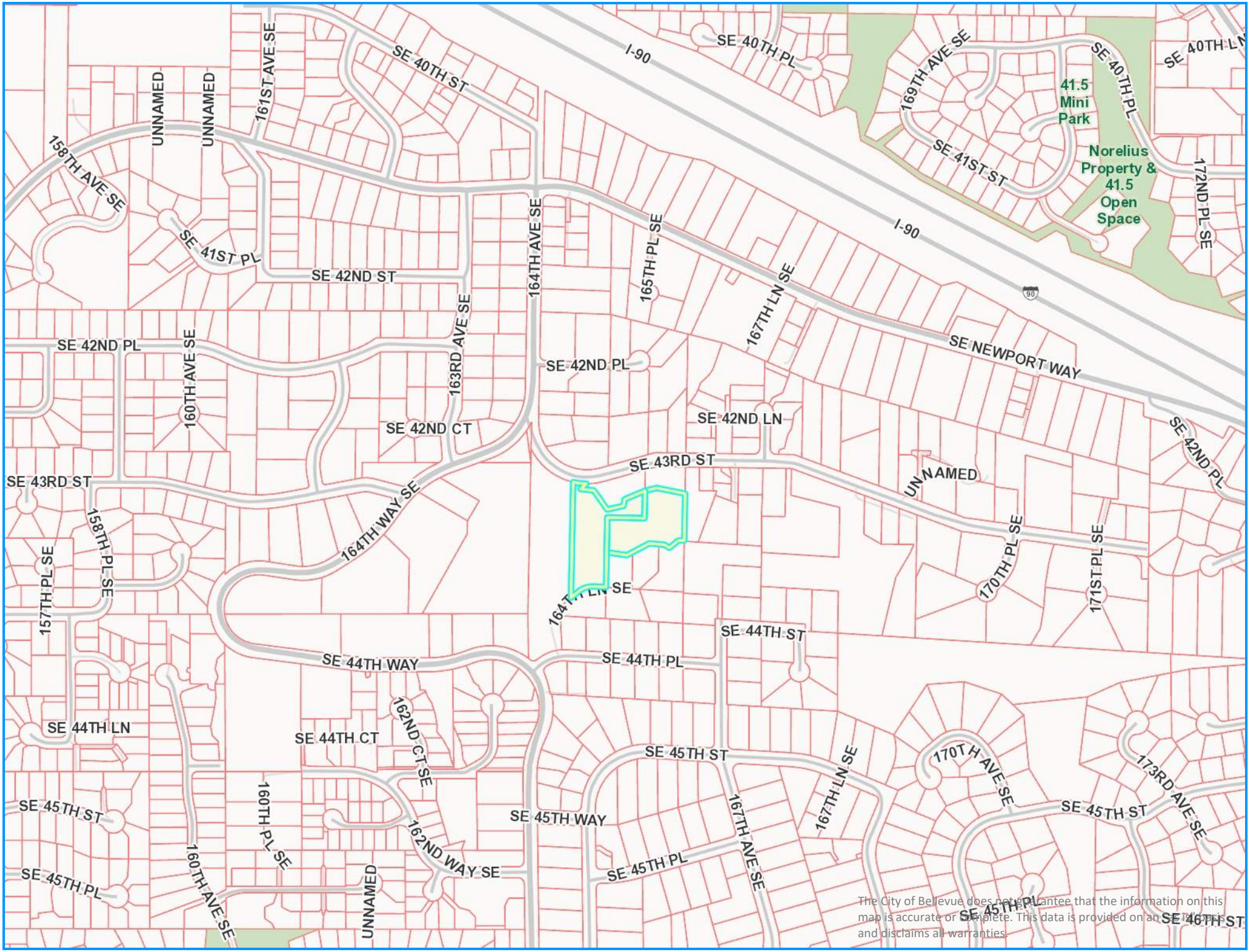


LEGAL DESCRIPTION

PARCEL A
LOT 1, KING COUNTY SHORT PLAT NO. S89S0353, ACCORDING TO THE SHORT PLAT RECORDED UNDER RECORDING NUMBER 9504249018, RECORDS OF KING COUNTY, STATE OF WASHINGTON;

TOGETHER WITH TRACT A OF SAID SHORT PLAT.

PARCEL B:
A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS AS DELINEATED ON KING COUNTY LOT LINE ADJUSTMENT NO. S91L0085 RECORDED UNDER RECORDING NO. 9407210616, AND SURVEY RECORDED UNDER RECORDING NO. 9112199012, RECORDS OF KING COUNTY, WASHINGTON;

EXCEPT THAT PORTION LYING WITHIN ABOVE PARCEL A.

PARCEL C:
A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS DISCLOSED BY INSTRUMENT RECORDED UNDER RECORDING NO. 9805281047 WHICH IS A RE-RECORD OF 9504170881 AND AMENDED BY 9805281048, WHICH IS A RE-RECORD OF 9507200261;

EXCEPT THAT PORTION LYING WITHIN ABOVE PARCEL A.
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

WASHINGTON COORDINATE SYSTEM, NAD83(2011), NORTH ZONE, DERIVED FROM CITY OF BELLEVUE SURVEY CONTROL NETWORK - ACCEPTED THE BEARING OF N 74°13'49" W BETWEEN THE WEST QUARTER CORNER OF SECTION 13, TOWNSHIP 24 N., RANGE 5 E., W.M. AND THE INTERSECTION OF SE 44TH PL AND 167TH AVE SE, BASED ON FOUND MONUMENTS AT PUBLISHED CITY OF BELLEVUE SURVEY CONTROL POINT NOS. 140 & 392.

VERTICAL DATUM & CONTOUR INTERVAL

NAVD88 - ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY CITY OF BELLEVUE SURVEY CONTROL DATABASE.

POINT ID NO. V362 - BRASS DISK AT SOUTHEAST CORNER OF BRICK PLANTER WITH CONCRETE BASE IN THE NORTHWEST QUADRANT OF THE INTERSECTION OF SE 44TH PL AND 164TH LN SE.

ELEVATION: 649.739 FEET

2.0' CONTOUR INTERVAL ARE DERIVED FROM DIRECT FIELD OBSERVATIONS - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 CONTOUR INTERVAL OR ± 1.0' FOR THIS PROJECT

REFERENCES

1. JEFFREY HEIGHTS, VOL. 65, PG. 79, RECORDS OF KING COUNTY, WA.
2. KING COUNTY SHORT PLAT NO. S89S0352, VOL. 103, PGS. 122-122A, RECORDS OF KING COUNTY, WA.

SURVEY PURPOSE

VIEW CLEARING PERMIT

GENERAL NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND LEICA TS16 ROBOTIC TOTAL STATION AND/OR LEICA GS16 GPS RECEIVER. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN FEBRUARY 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING IN OCTOBER, 2020.

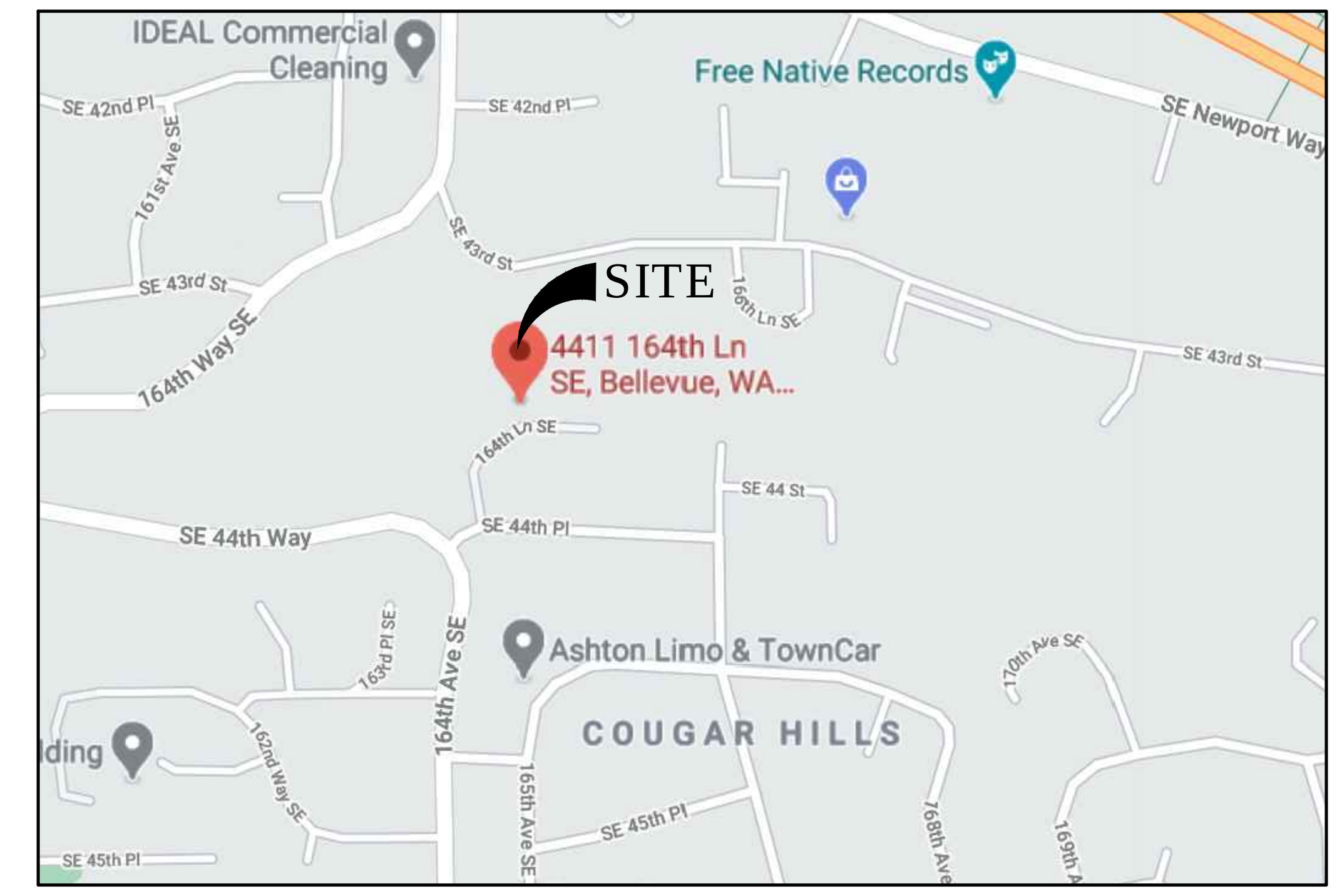
PROJECT INFORMATION

TAX PARCEL NUMBER:	1324059047
PROJECT ADDRESS:	4411 164TH LN SE BELLEVUE, WA 98006
ZONING:	R-3.5
JURISDICTION:	BELLEVUE
TOTAL PARCEL ACREAGE:	74,288 S.F. (1.71± ACRES) AS SURVEYED

SW 1/4, NW 1/4, SEC. 13, T. 24 N., R. 5 E., W.M.

LEGEND

	CULVERT	DITCH	DITCH
CH	CHERRY	SD	STORM DRAINAGE LINE
ALD	ALDER	W	WATER LINE
CED	CEDAR	G	GAS LINE
DF	DOUGLAS FIR		HOGWIRE FENCE
MAP	MAPLE		BUILDING LINE
	MANHOLE		CONCRETE WALL
CO	CLEANOUT		ASPHALT SURFACE
WM	WATER METER		CONCRETE SURFACE
GM	GAS METER		ROCKERY
COL	COLUMN		FOUND BRASS DISK
ACU	AC UNIT		SET/FOUND NAIL AS DESCRIBED
	CB (TYPE-1)		SET/FOUND AS DESCRIBED
	SECTION CORNER		FOUND MONUMENT IN CASE
MRKSW	SEWER MARKER		FOUND 1/4 SECTION CORNER
	INGRESS, EGRESS & UTILITIES ESM'T, REC. NO. 9504170881		
	SEWER ESM'T, REC. NO. 9504249018		
	10' DRAIN ESM'T, REC. NO. 9504249018		



VICINITY MAP
NTS

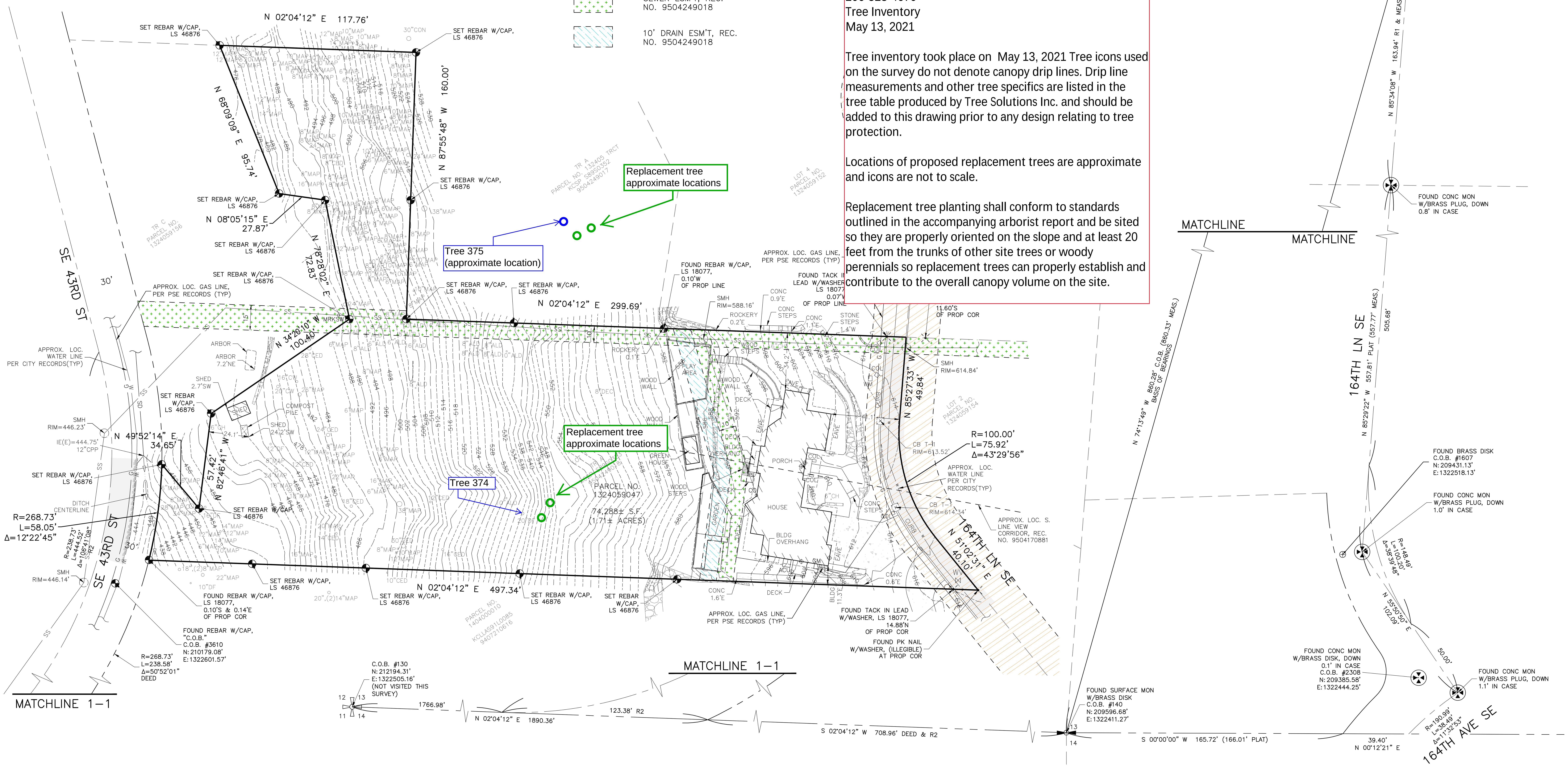
GRAPHIC SCALE
1 INCH = 30 FT.

Tree Solutions Inc.
Arborist: Joseph Sutton-Holcomb ISA PN-8397AM
206-528-4670
Tree Inventory
May 13, 2021

Tree inventory took place on May 13, 2021 Tree icons used on the survey do not denote canopy drip lines. Drip line measurements and other tree specifics are listed in the tree table produced by Tree Solutions Inc. and should be added to this drawing prior to any design relating to tree protection.

Locations of proposed replacement trees are approximate and icons are not to scale.

Replacement tree planting shall conform to standards outlined in the accompanying arborist report and be sited so they are properly oriented on the slope and at least 20 feet from the trunks of other site trees or woody perennials so replacement trees can properly establish and contribute to the overall canopy volume on the site.



Ph: 206.406.1257
nicoleb@bbasurveying.com
www.bbasurveying.com

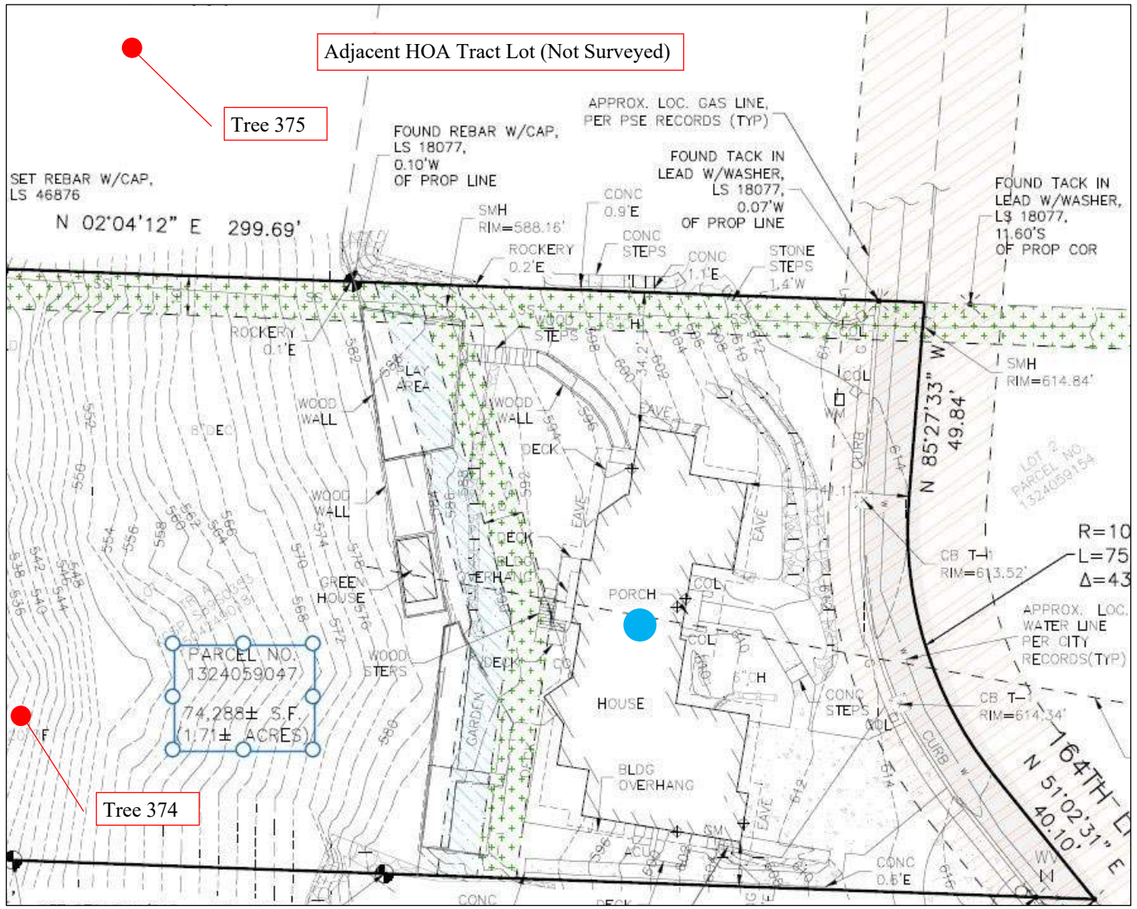
BBA Land Surveying

MARK A. BORYS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL LAND SURVEYOR 46876 03/01/21

BOUNDARY & TOPOGRAPHIC SURVEY
JUSTIN BATES
4411 164TH LN SE
BELLEVUE, 98006

JOB NO.	19006
DRAWN BY:	RSN
CHECKED BY:	MAB
DATE:	03/01/2021

SHEET
1 OF 1

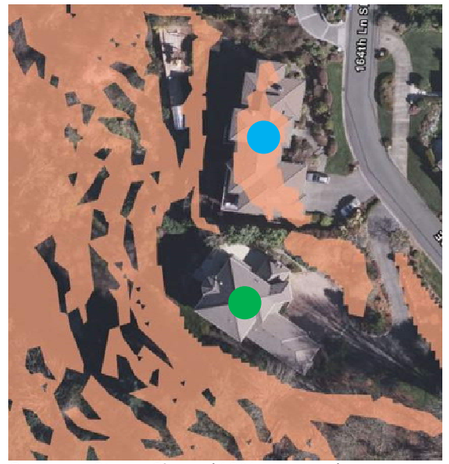


Source: Boundary and Topographic Survey of Justin Bates' property

BBA Land Surveying

Dated 03/01/2021

Key Map



Orange: Steep Slope (40% average)
Blue Dot: Bruce Shu Residence
Green Dot: Justin Bates residence

Size of Area proposed for disturbance:
1,331 sq feet
(square footage covered by tree driplines)

Existing vegetation covers:
1,331 sq feet

Existing ecological functions:
- Habitat (bird, amphibian, small mammals)
- Soil stabilization (roots)
- Stormwater filtering, detention, infiltration

Tree ID	*Botanical Name*	Common Name	DBH	Health / Structure	Canopy	Proposed Action	Notes
374	*Pseudotsuga menziesii*	Douglas-fir	25.6	Good/Good	18	Remove	kink in trunk at 25 feet indicates tree was previously topped or experienced failure, cedar tree that failed January 2021 adjacent to base, growing on steep slope, signs of water movement on soil surface, tree is approx. 80 feet tall
375	*Pseudotsuga menziesii*	Douglas-fir	9.7	Good/Good	10	Remove	young tree on HOA property, good health, developing codominant stems at apex of canopy, 25 feet tall, client seeks removal and replacement with species smaller at maturity to maintain views

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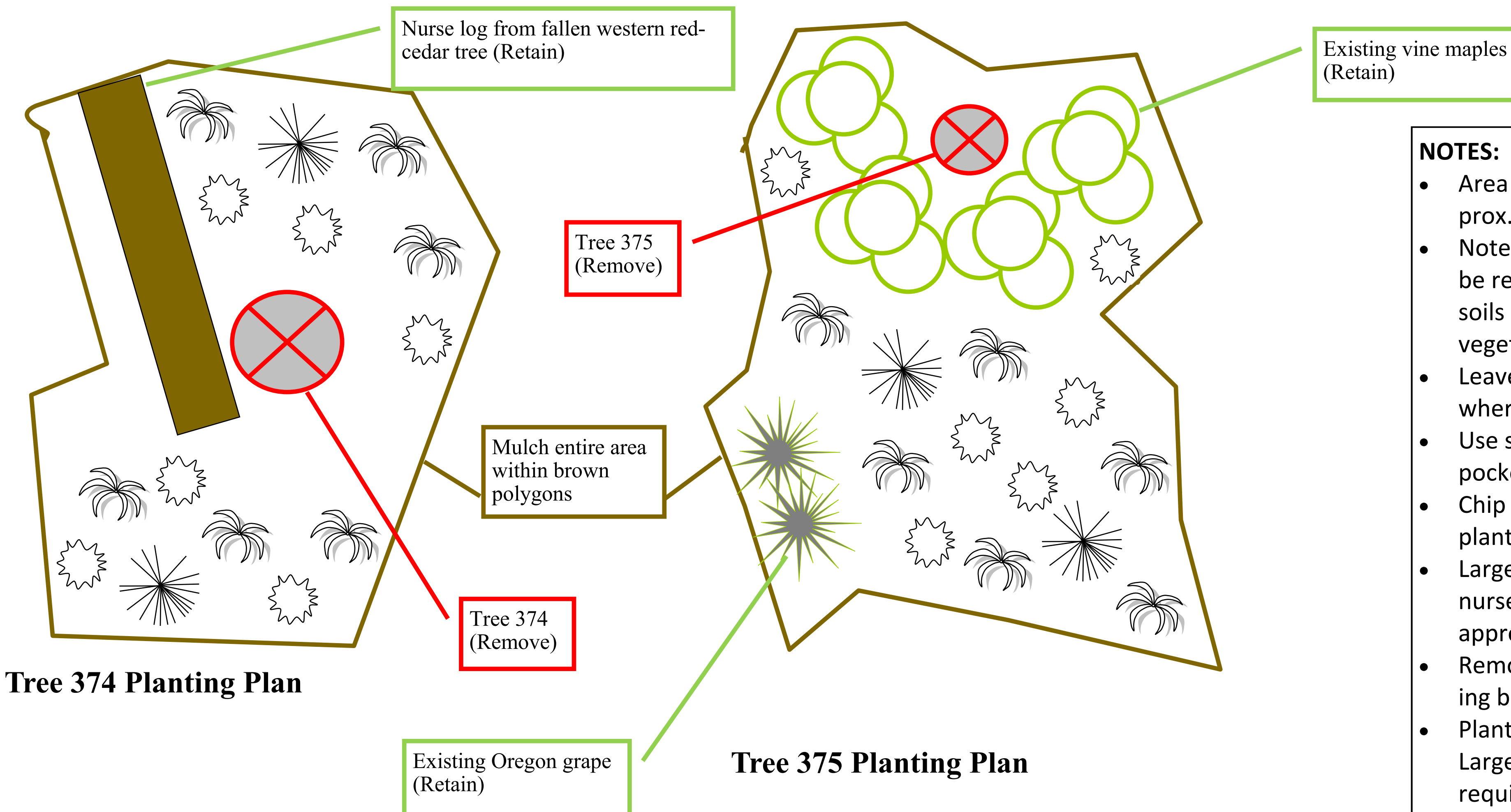
Bellevue, WA
Parcel # 1324059047 & 132405TRCT

August 20, 2021

Existing Conditions

Sheet #

L-1



Tree 374 Planting Plan

Tree 375 Planting Plan

PLANT SCHEDULE

SYM	QTY	NAME	SCIENTIFIC NAME	SIZE	SPACING
Trees / Shrubs					
	4	Shore pine	*Pinus contorta v. contorta*	2 gal	10’ o.c.
Shrubs/Groundcover					
	12	Sword fern	*Polystichum munitum*	1 gal	3-8’ o.c.
	12	Snowberry	*Symphoricarpos albus*	1 gal	3-8’ o.c.

NOTES:

- Area of disturbance / area to be replanted is approx. 1331 sq ft. of steep slope
- Note that this area is based on driplines of trees to be removed. Actual area of mechanically disturbed soils will be negligible due to existing understory vegetation and retention of tree stumps on site
- Leave existing native vegetation to regenerate where possible
- Use smaller pieces of wood as wattles for planting pockets and soil/moisture retention
- Chip up larger debris and use as mulch for new plantings
- Large logs can be placed in contact with the soil as nurse logs on the slope (pending City of Bellevue approval) or removed from the site
- Remove all invasive weeds in restoration area using best management practices
- Plant sizes listed are ideal but based on availability. Larger quality plant material is acceptable but will require additional temporary irrigation. Smaller quality plant material acceptable if quantity is increased
- Irrigation May-Sept is required for 5 years after planting
- 4 inches of coarse woody mulch is required for all new plantings. Mulch shall be contiguous to create a planting area free of invasive weeds wherever possible
- Planting plan is schematic, and locations are approximate. Planting plan should be adjusted so replacement plantings are installed in exposed areas or areas where invasive vegetation has been cleared in close proximity to removed trees

Plan must be consistent with standard tree and vegetation plan and BMP’s and conform to all Federal, State, and Local agency management requirements.

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August 20, 2021

Mitigation Plan

Sheet #

L-2

NOTES: Tree Removal and Planting

Tree Removals:

Trees 374 and 375 are proposed for removal and replacement with smaller tree species. Any tree felling shall avoid damaging existing adjacent trees and vegetation to the greatest extent feasible. Any vegetation damaged during removal activities shall be replaced at a 1:1 ratio, mulched, and irrigated for 3-5 years.

All logs from tree removals shall be placed deliberately against the slope to remain as nurse logs or removed from the site. Wood must be in contact with the ground and lay perpendicular to the slope. Smaller twigs and branches can be intentionally left on site as coarse woody debris or used as wattles to decrease surface erosion and create planting pockets. All wood, leaf and twig litter that cannot be re-used and left in direct contact with the ground, must be cleaned off of the site.

Protect existing vegetation during removals by rigging large pieces or using directional felling techniques to avoid destruction of native trees and shrubs on site

Leave trunks of trees standing as wildlife snags. Tree 374, the larger tree, should be a wildlife snag at least 25' in height.

Clearing and Grubbing Notes:

No grading activity should occur within the restoration area.

All native plants shall be left intact throughout the restoration area.

Vegetation removal and planting shall be done by hand (no wheeled nor tracked equipment will be used to remove or replace vegetation). Where possible, non-invasive vegetative material shall be composted on site discreetly in one or more concentrated compost pile(s) or properly disposed of off site. Compost piles shall be not more than three feet high and shall not be within 15 feet of an existing retained tree.

Removal of invasive plants will be done using a combination of hand tools and hand-held power equipment.

Specifically, Ivy (*Hedera spp*) and Himalayan blackberry (*Rubus bifrons*) will be cleared and grubbed by hand -digging out the roots. If instability of slope precludes this grubbing, plants shall be cut at the base. Remove invasive plant material from the site for disposal. If this is not feasible, compost on-site on top of woody debris piles so that plant material is not in contact with the ground; this will prevent vegetative propagation. Once plant material is completely dry, it can be spread throughout the site as mulch material.

Wild clematis / old man's beard (*Clematis vitalba*) shall be cut at waist height or lower allowing upper vines to dieback in place. When possible to remove vines without damage to existing trees and vegetation, vines should be removed. Dispose of removed vegetation off site.

English holly (*Ilex aquifolium*) and Cherry laurel (*Prunus laurocerasus*) will be cleared and grubbed. Vegetative matter shall properly disposed of off site.

Reed canary grass (*Phalaris arundinacea)* should be removed by hand in situations where it conflicts with restoration plantings. No reed canary grass should be present within 6 feet of any installed planting.

Basic Planting Instructions
(Partially abridged from the Seattle Standard Mitigation Plan)

Plant between mid-October and mid-December. If that is not possible, plant between mid-December and mid-April. Do not plant during dry months. No slope work should occur during periods of extreme wet weather.

Before planting, set out the plants according to the planting plan. Remove invasive vegetation, including English ivy and Himalayan blackberry, from all areas within 5-feet of proposed planting holes.

Spacing is approximate and listed as distance between plants 'on center' (o.c.), where existing conditions allow. Adjust locations of plants if the planting hole location per the planting plan requires damaging existing tree roots or native vegetation.

Dig bowl-shaped planting holes at least twice the width of the potted plant. The hole should be the same depth as the root ball of the planted plant.

Rough up the sides of the planting hole.

Remove the plant from its container and gently loosen bound roots on the outer inch of the soil and cut roots that encircle the root ball.

Set the plant in the hole so that the top of the soil remains level with the surrounding soil. Fill the surrounding space with loose native soil. Cover any exposed roots but do not pile dirt on the stem as it can kill some plants.

Gently press the filled soil to collapse air pockets, but allow the soil to remain loose. Form a temporary water basin around each plant to encourage water collection.

Overplanting can assist in less maintenance disturbance over time by reducing number of times slope is accessed. Assuming that monitoring goals are met.

Water thoroughly.

Mulch with 4 inches of wood chips. If wood chips are not available, mulch with leaves or compost. Do not allow mulch to touch the base of the plant. Keep mulch 6 inches away from the base of new plantings.

Install temporary irrigation (water bags, tree gators, drip tubing etc).Test temporary irrigation and **water plants thoroughly again**.

Maintenance:
Maintenance of the restoration site involves temporary irrigation over a **five year establishment period.** It also includes removal of invasive plant material twice annually during the dry season (July through September). Annual and perennial grasses that seed in shall not be removed during maintenance unless they are an invasive species or interfering with plant establishment by growing aggressively in proximity to installed plants.

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Parcel # 1324059047 & 1324059405TRCT

August 20, 2021

Planting Specifications

Sheet #

L-3

Monitoring Requirements

Regular maintenance of this area is required for a minimum period of 5 years. This includes regular weeding, removal of invasive species, and supplemental irrigation.

Irrigation is intended to help young plants establish, and should be reduced in volume and frequency with each year so plants are self-sufficient at the end of the maintenance period and not shocked by lack of water when irrigation ceases.

Invasive plant species (specifically ivy) must be managed during the maintenance period. Management includes hand-grubbing and removal from the site.

Annual inspections by a qualified professional should take place during the growing season. Inspectors should produce a memo with **photographic documentation**, and submit it to the city for review.

Criteria for determining the success of mitigation at the end of 5 years:

- **80% of new plants must be alive, including all tree specimens.**
- Invasive plants must not be present.
- 100% of ground must be covered by vegetation.
- Native plants that self seed will count towards the overall replacement plants.

Contingency actions if mitigation fails (including additional monitoring):

- When new plants die, they must be replaced. If (at any time during the 5 year monitoring period) tree specimens die, or the mortality rate of installed plants exceeds 20%, the 5-year maintenance clock is restarted at the time of new planting. Re-planting should occur in the fall.
- If invasive plants are still present after 5 years, maintenance must continue until area is free of invasives for 3 consecutive years.

Ecological Function

Within these defined areas, the vegetation provides the following ecological functions:
Habitat (birds, amphibians, small mammals)
Soil stabilization (roots)
Stormwater filtering (foliage and twigs)

Ground coverage of existing Trees
1,331 sq feet

Ground coverage following tree removals
0 sq feet*

Ground coverage following replanting in 5 years
1,244 sq feet

Existing ecological functions:
Habitat (avian, amphibian, small mammals)

- Lost: 1331 sq ft
- Restored: 1244 sq ft

Soil stabilization (roots)

- Lost: 1331 sq ft
- Restored: 1244 sq ft

Stormwater filtering, detention, infiltration (foliage and dense twigs)

- Lost: 1331 sq ft
- Restored: 1244 sq ft

Note: Ground coverage at 5 years is based on estimated coverage of replacement trees, shrubs, and groundcovers after establishment. Ground coverage will continue to increase as replacement trees mature.

**Existing native vegetation provides significant ground coverage beneath the existing tree canopies and will be retained during tree removal and replanting activity. The "0 sq feet" refers to the removal of overhead tree canopy and associated decrease in ecological function.*

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August 20, 2021

Monitoring & Maintenance Plan

Sheet #

L-4

TIMELINE

	Year 1 (summer)	Year 1 (fall)	Year 2	Year 3	Year 4	Year 5
Remove invasive plants: (Ivy, Clematis, Blackberry, Holly, Canary Grass)	Clear and grub (where possible) from restoration area; Cover area with coir fabric to prevent surface erosion until planting	—-	2 x remove any regrowth or new seedlings (May, July). Test irrigation line and re-align in May the same time as first weeding.	1 x remove any regrowth or new seedlings (May, July). Test irrigation line and re-align in May the same time as first weeding.	1 x remove any regrowth or new seedlings (May, July). Test irrigation line and re-align in May the same time as first weeding.	1 x remove any regrowth or new seedlings (May, July). Test irrigation line and re-align in May the same time as first weeding.
Existing Trees (Removed / Retained)	Leave trunks in place as wildlife snags	—	—	--	--	—
New trees, shrubs, groundcover	--	Plant as specified in planting plan and planting instructions. Mulch and water planting area directly after planting	Replace any dead plants in fall or late winter	Replace any dead plants in fall or late winter	Replace any dead plants in fall or late winter	Replace any dead plants in fall or late winter if mortality is below 80% of original planting. Shore-pines must be replaced if dead.
Temporary Irrigation	—	Install in fall with soaker hoses laid horizontally along the slope. Use flagging on new plants so they don't get weeded out. Gator bags may also be used	Irrigation (soaker hose): May x 1 (test line) June x 2 July x 4 August x 4 September x 3	Irrigation: June x 2 July x 3 August x 3 September x 1	Irrigation: June x 2 July x 3 August x 3 September x 1	Irrigation: June x 2 July x 2 August x 3 Remove irrigation if no replanting necessary
Temporary sediment control	Install coir blanket across slope where slope is void of vegetation. Small plants can be planted after coir fabric is laid. Use coir logs as needed to create small terraces for planting Establish temporary maintenance path to avoid excessive surface erosion during weeding/ planting	-	Reinstall coir logs or blankets as needed	Reinstall coir logs or blankets as needed	Reinstall coir logs or blankets as needed	Reinstall coir logs or blankets as needed
Monitoring		Annual inspection with photo-documentation.	Annual inspection with photo-documentation.	Annual inspection with photo-documentation.	Annual inspection with photo-documentation.	Annual inspection with photo-documentation.

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August 20, 2021

Monitoring & Maintenance Plan

Sheet #

L-5

Tree Solutions Inc
Consulting Arborists

Project No. TS -7712

Arborist Report

To:	City of Bellevue
Site:	4411 164th Ln SE and adjacent tract lot Parcels 1324059047 & 132405TRCT
Re:	Critical Area Report & Tree Removal Request
Date:	June 1, 2021
Project Arborist:	Joseph Sutton-Holcomb ISA Certified Arborist #PN-8397AM Municipal Specialist, Qualified Tree Risk Assessor
Attached:	Site Survey Bill to Form Steep Slope Planting Detail Tree Planting Guidelines

Assignment & Scope

Tree Solutions visited the sites listed above to assess the health and structure of two Douglas-firs (*Pseudotsuga menziesii*). The trees are numbered 374 and 375. Tree 374 is 25.6 inches Diameter at Standard Height (DSH) and located on a steep slope on Justin Bates' property (4411 164th Ln Se, Parcel #1324059047) Tree 375 is 9.7 inches DSH and located on parcel 132405TRCT, which is a multiple owner tract lot under the control of the Palladian Point Homeowner's Association.

Mr. Bates requested these services due to concern that the subject trees are encroaching on property lake views, specifically those of his neighbor Bruce Shu who resides at 4423 164th Ln SE. Mr. Bates and Mr. Shu seek permission to remove these two trees and replace them with native evergreen species that achieve a lower height at maturity.

The properties is in an environmentally critical area (ECA) on the City of Bellevue GIS, and therefore section 20.25H of the Land Use Code is applicable, and a Critical Area Permit is required to remove these trees.

<u>Recommendations</u>

- Acquire a Critical Area Permit from the City of Bellevue before removing any trees or vegetation.
- If trees are permitted for removal, Leave the lower trunk and rootball in place to provide wildlife habitat and help mitigate erosion on slope. Do not grind out stump or remove rootball with excavation equipment.
- Ensure all wood is removed from site or placed intentionally in direct contact with the adjacent slope to serve as nurse logs.
    - Small branches should be chipped up and used as mulch so slope is not overloaded with woody debris

- Replant new trees at a 2:1 ratio for each tree removed. Replacement planting shall consist of installing four Shore pine (*Pinus contorta* var. Contorta) in the approximate locations specified in the site map and the annotated survey attached to this report.
- Replanting shall conform to details and specifications for tree planting attached to this report
- Replacement trees shall be at least 2 feet in height and conform to the American Standards for Nursery Stock (ANSI Z60.1)

Observations & Discussion

Site

The site is a managed slope in southwestern Bellevue, with a view corridor to Lake Sammamish. A mixture of native and invasive species exist on the site. The primary tree species include Bigleaf maple (*Acer macrophyllum*) vine maple (*Acer circinatum*) Douglas-fir (*Pseudotsuga menziesii*) Western redcedar (*Thuja plicata*) and red alder (*Alnus rubra*) other woody perennial species on the site include Oregon grape (*Mahonia aquifolium*) and beaked hazelnut (*Corylus cornuta*).

Invasive species on the property include invasive blackberry (*Rubus* spp.) and a number of grass species that have colonized open spaces devoid of native trees and understory vegetation. This grass is mowed seasonally to suppress encroachment on desirable native vegetation. A system of narrow trails, some with earthen steps, allow access to the sloped area, which is to the north of the houses which front 164th Ln SE.

Palladain Point View Corridor covenant

Section 7.8 of the Palladain point neighborhood covenant discusses view protection. It states: “the association shall be responsible to see that trees, bushes, and foliage located within the Sensitive Area Setback Areas and Lot C Sensitive Area are trimmed and maintained as allowed by law, at a height to presrerve the view of all lots so long as the soils are not disturbed…”

Section 14.2 of the covenant states: “No Lot Owner shall plant any foliage, bush or tree, nor allow any foliage, bush or tree, to grow to exceed the PRE-existing restrictions in article 3 and in paragraph 7.3 and 7.8. In the event such foliage does exceed the required limit, the association shall notify the lot owner. If the lot owner has not trimmed his foliage to the required height within ten (10) days of notice, then the association shall so trim the foliage and assess the cost of such trimming against the owner of the lot charged”

It is the opinion of my clients that the requested removals are necessary to be in compliance with the regulations they agreed to as lot owners in the Palladain Point neighborhood.

Trees

I inventoried only two trees on the property, both of which were Douglas-firs. Both are in good health and structural condition. Due to a lack of targets in the vicinity of the trees, neither posed a risk at the time of my assessment in my opinion.

Replacement Trees and Vegetation Management Plan

Mr. Bates and the Pallaidian Point Homeowner’s Association have a long-standing vegetation management plan (Permit #21-104936 GJ) for the steep slope area on the parcels noted above. The plan includes specifications for pruning of sucker growth from previously removed trees and invasive plant

control. Arborist Brian Gillis originally prepared the vegetation management plan in 2001, and reassessed the area in 2009.

David Wong, of the City of Bellevue most recently approved the vegetation management plan permit on April 9, 2021. Any permitted tree removals and replacement plantings will be enacted as an expansion of the permitted management plan. This will increase the chance that replacement plantings establish successfully on the site, and that the site will continue to have significant canopy cover and desirable understory species.

The removal of these two Douglas-firs, if approved, would impact the site by reducing canopy volume, wildlife habitat, and reducing stormwater interception.

Replaced Ecological Function

While the above ecosystem services will be impacted by the proposed tree removals, this project proposes replacing the ecological function in the following ways:

- Replanting at a 2:1 ratio with replacement trees.
- Replanting with native shore pines (*Pinus contorta* var. contorta) that will provide year-round ecological functions, which is particularly important for wildlife shelter and stormwater mitigation.
- Leaving the trunks of tree 374 as a 25 foot wildlife snag to provide wildlife habitat.
- Adding woodchip mulch to help control erosion and water runoff, as well as build organic matter on-site.
- Maintaining understory vegetation, including young saplings, that will benefit from increased light conditions following tree removal
- Continued control of invasive species as outlined in long standing vegetation management plan.

Respectfully submitted,

Joseph Sutton-Holcomb,
Consulting Arborist

Appendix A **Site Map**

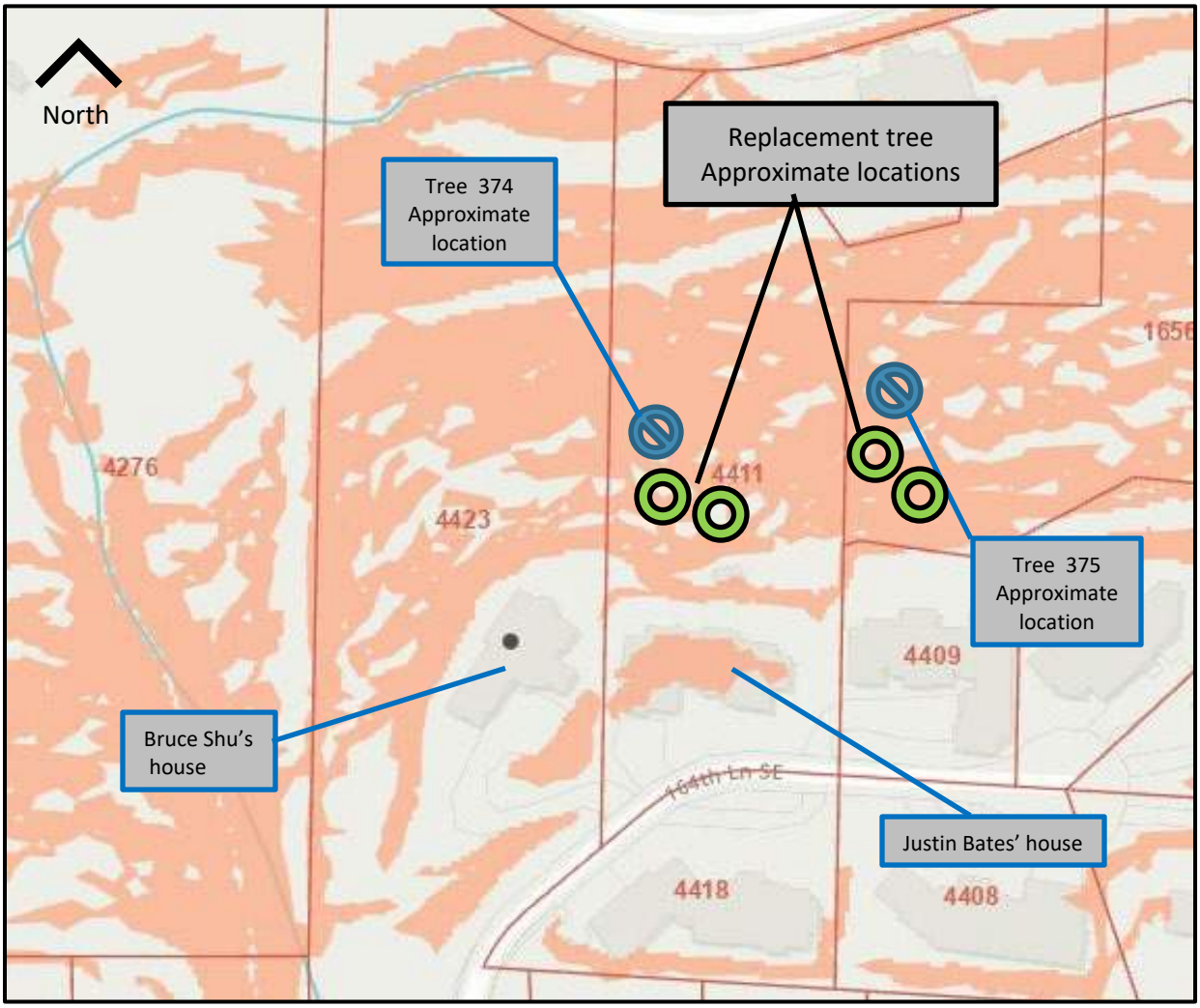


Figure 1. Site Map (Source: City of Bellevue GIS). The light red shading indicates steep slope conditions. The red lines indicate approximate parcel boundaries. The blue callouts and icons are added by Tree Solutions for clarity.

Appendix B **Photographs**

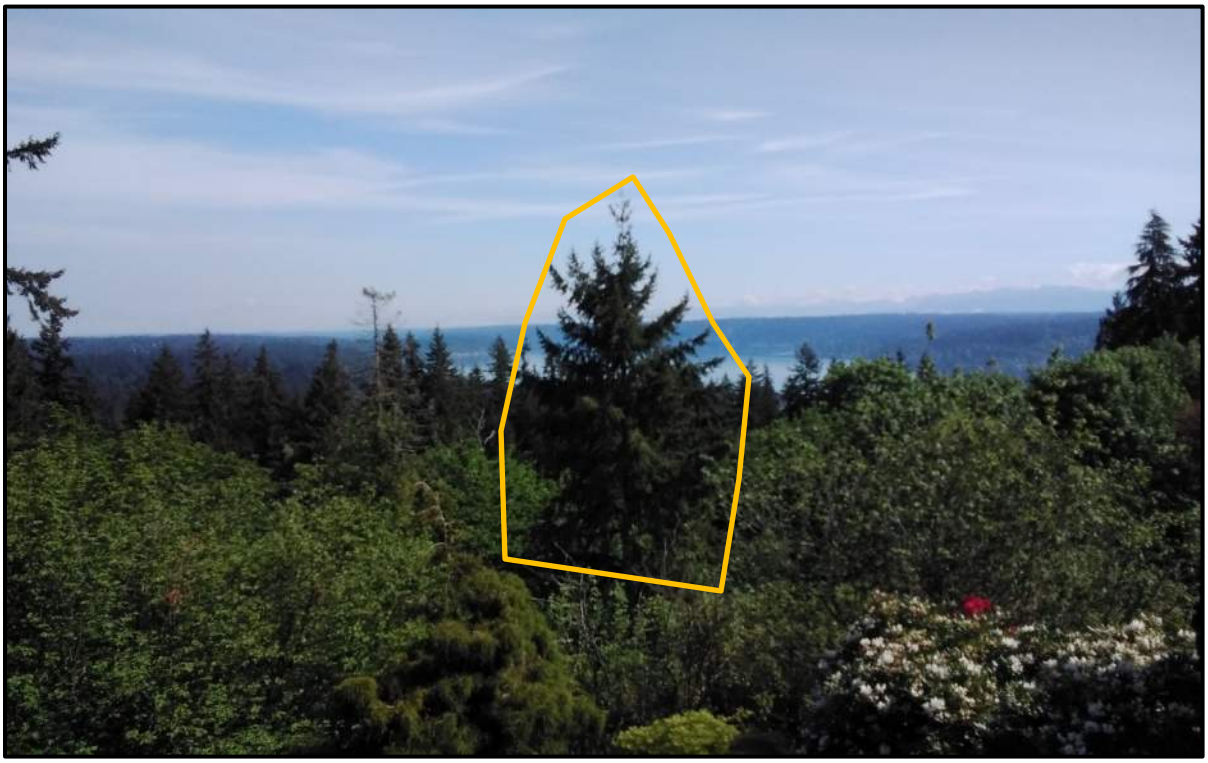


Photo 1. A view from Mr. Shu's deck with the crown of Douglas-fir tree 374 outlined in yellow.

Photo 2. The base of Douglas-fir 374. The fallen western redcedar at the base failed in the January 2021 windstorm.

Photo 3. A close-up of the crown of tree 374.

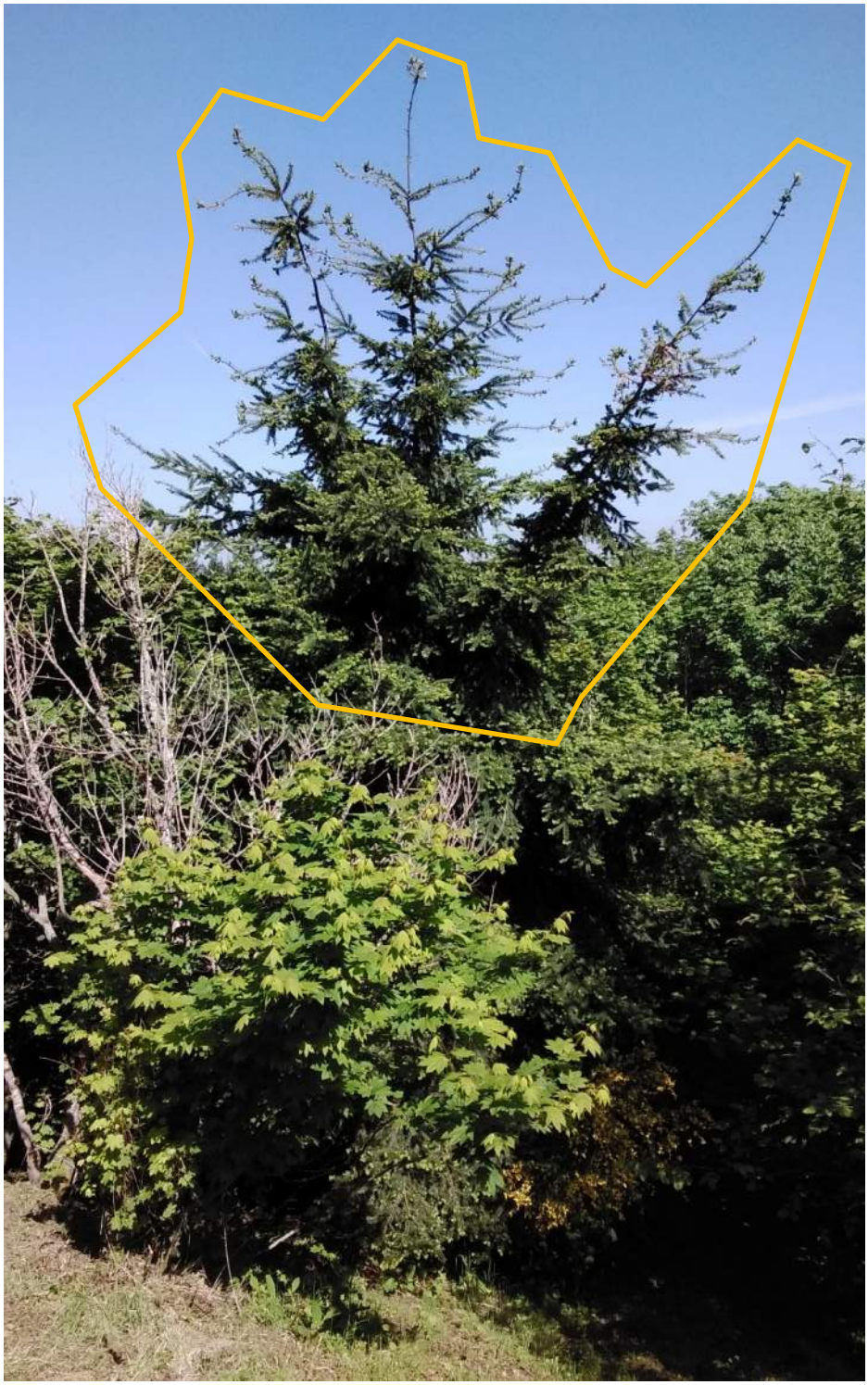


Photo 4. A view of tree 375, a young Douglas-fir proposed for removal and replacement.

Appendix C **Glossary**

advanced assessment: an assessment performed to provide detailed information about specific tree parts, defects, targets, or site conditions. Specialized equipment, data collection and analysis, and/or expertise are usually required (ISA 2013)

ANSI A300: American National Standards Institute (ANSI) standards for tree care

basic assessment: detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor walk completely around the tree trunk looking at the site, aboveground roots, trunk, and branches (ISA 2013)

bending moment: a turning, bending or twisting force exerted by a lever, defined as the force (acting perpendicular to the lever) multiplied by the length of the lever (see *moment*) (ISA 2013)

cabling: installation of hardware in a tree to help support weak branches or crotches (Lilly 2001)

chlorotic: foliage with whitish or yellowish discoloration caused by lack of chlorophyll

codominant stems: stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)

cracks: defects in trees that, if severe, may pose a risk of tree or branch failure (Lilly 2001)

crown: the aboveground portions of a tree (Lilly 2001)

crown cleaning: selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (ANSI A300)

DBH or DSH: diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)

deciduous: tree or other plant that loses its leaves sometime during the year and stays leafless generally during the cold season (Lilly 2001)

drive-by (assessment): limited visual inspection from only one side of the tree, performed from a slow-moving vehicle; also may be called a windshield assessment (ISA 2013)

epicormic: arising from latent or adventitious buds (Lilly 2001)

evergreen: tree or plant that keeps its needles or leaves year round; this means for more than one growing season (Lilly 2001)

force: any action or influence causing an object to accelerate/decelerate. Calculated as mass multiplied by acceleration. Is a vector quantity (ISA 2013)

increment: the amount of new wood fiber added to a tree in a given period, normally one year. (Dunster 1996)

ISA: International Society of Arboriculture

included bark: bark that becomes embedded in a crotch between branch and trunk or between codominant stems and causes a weak structure (Lilly 2001)

landscape function: the environmental, aesthetic, or architectural functions that a plant can have (Lilly 2001)

lateral: secondary or subordinate branch (Lilly 2001)

level(s) of assessment: categorization of the breadth and depth of analysis used in an assessment (ISA 2013)

lever arm: the distance between the applied force (or center of force) and the point where the object will bend or rotate (ISA 2013)

limited visual assessment: a visual assessment from a specified perspective such as foot, vehicle, or aerial (airborne) patrol of an individual tree or a population of trees near specified targets to identify specified conditions or obvious defects (ISA 2013)

micro-resistance drill: a drilling instrument used to determine the density of wood by measuring the amount of resistance presented to the drilling needle as it is driven into the wood. The drilling resistance profiles show clearly where compression wood, annual rings, rot in various stages and other defects have been encountered by the drilling needle.

mitigation: process of reducing damages or risk (Lilly 2001)

moment: a turning, bending, or twisting force exerted by a lever, defined as the force (acting perpendicular to the lever) multiplied by the length of the lever (ISA 2013)

monitoring: keeping a close watch; performing regular checks or inspections (Lilly 2001)

owner/manager: the person or entity responsible for tree management or the controlling authority that regulates tree management (ISA 2013)

pathogen: causal agent of disease (Lilly 2001)

phototropic growth: growth toward light source or stimulant (Harris *et al.*1999)

retain and monitor: the recommendation to keep a tree and conduct follow-up assessments after a stated inspection interval (ISA 2013)

significant size: a tree measuring 6" DSH or greater

snag: a tree left partially standing for the primary purpose of providing habitat for wildlife

soil structure: the arrangement of soil particles (Lilly 2001)

sounding: process of striking a tree with a mallet or other appropriate tool and listening for tones that indicate dead bark, a thin layer of wood outside a cavity, or cracks in wood (ISA 2013)

structural defects: flaws, decay, or other faults in the trunk, branches, or root collar of a tree, whichmay lead to failure (Lilly 2001)

tomography: a technique for obtaining 2-D cross sections or 3-D pictures of the interior of an object by passing sound waves through the object and measuring the travel times of the acoustic signals as the object absorbs or scatters them on ray paths between source and receiver.

Visual Tree Assessment (VTA): method of evaluating structural defects and stability in trees by noting the pattern of growth. Developed by Claus Mattheck (Harris, *et al* 1999)

walk-by (assessment): a limited visual inspection, usually from one side of the tree, performed as the tree risk assessor walks by the tree(s) (ISA 2013)

Appendix D **References**

Accredited Standards Committee A300 (ASC 300). ANSI A300 (Part 1) – 2017 Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning). Londonderry: Tree Care Industry Association, 2017.

Dunster & Associates Environmental Consultants Ltd. Assessing Trees in Urban Areas and the Urban-Rural Interface, US Release 1.0. Silverton: Pacific Northwest Chapter ISA, 2006

Dunster, Julian A., E. Thomas Smiley, Nelda Matheny, and Sharon Lilly. Tree Risk Assessment Manual. Champaign, Illinois: International Society of Arboriculture, 2013

E. Smiley, N. Matheny, S. Lilly. Best Management Practices: TREE RISK ASSESSMENT. ISA 2011.

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994.

Appendix E **Assumptions & Limiting Conditions**

1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.

2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.

3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.

4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.

5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.

6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.

7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.

8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.

9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

Appendix F **Methods**

Measuring

I measured the diameter of each tree at 54 inches above grade, diameter at standard height (DSH). If a tree had multiple stems, I measured each stem individually at standard height and determined a single-stem equivalent diameter by using the method outlined in the city of Seattle Director's Rule 16-2008 or the Guide for Plant Appraisal, 10th Edition Second Printing published by the Council of Tree and Landscape Appraisers. A tree is regulated based on this single-stem equivalent diameter value. Because this value is calculated in the office following field work, some trees in our data set may have diameters smaller than 6 inches. These trees are included in the tree table for informational purposes only and not factored into tree totals discussed in this report.

Tagging

I tagged each tree with a circular aluminum tag at eye level. I assigned each tree a numerical identifier on our map and in our tree table, corresponding to this tree tag. I used alphabetical identifiers for trees off-site.

Evaluating

I evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot or area of mechanical stress. A tree reacts to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. An understanding of the uniform stress allows the arborist to make informed judgments about the condition of a tree.

Rating

When rating tree health, I took into consideration crown indicators such as foliar density, size, color, stem and shoot extensions. When rating tree structure, I evaluated the tree for form and structural defects, including past damage and decay. Tree Solutions has adapted our ratings based on the Purdue University Extension formula values for health condition (*Purdue University Extension bulletin FNR-473-W - Tree Appraisal*). These values are a general representation used to assist arborists in assigning ratings.

Excellent - Perfect specimen with excellent form and vigor, well-balanced crown. Normal to exceeding shoot length on new growth. Leaf size and color normal. Trunk is sound and solid. Root zone undisturbed. No apparent pest problems. Long safe useful life expectancy for the species.

Good - Imperfect canopy density in few parts of the tree, up to 10% of the canopy. Normal to less than ¾ typical growth rate of shoots and minor deficiency in typical leaf development. Few pest issues or damage, and if they exist they are controllable or tree is reacting appropriately. Normal branch and stem development with healthy growth. Safe useful life expectancy typical for the species.

Fair - Crown decline and dieback up to 30% of the canopy. Leaf color is somewhat chlorotic/necrotic with smaller leaves and "off" coloration. Shoot extensions indicate some stunting and stressed growing conditions. Stress cone crop clearly visible. Obvious signs of pest problems contributing to lesser condition, control might be possible. Some decay areas found in main stem and branches. Below average safe useful life expectancy

Poor - Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting of shoots is obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe and uncontrollable. Extensive decay or hollows in branches and trunk. Short safe useful life expectancy.

Table of Trees

4411 164th Ln SE and adjacent Tract Lot , Bellevue, WA

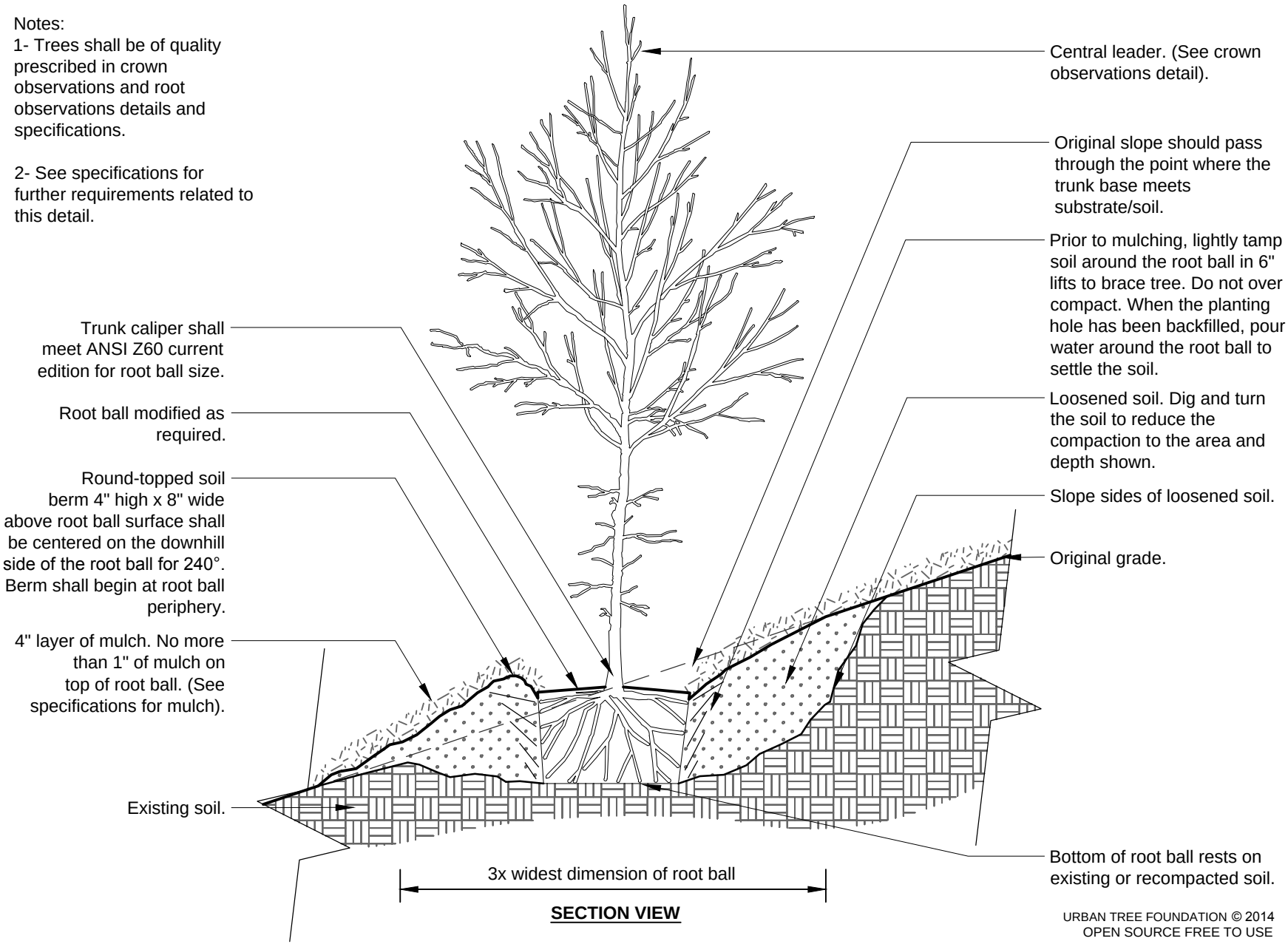
Arborist: Joseph S-H
Date of Inventory: May 13, 2021
Table Prepared: June 1, 2021

DSH (Diameter at Standard Height) is measured 4.5 feet above grade, or as specified in the Guide for Plant Appraisal, 10th Edition, published by the Council of Tree and Landscape Appraise
DSH for multi-stem trees are noted as a single stem equivalent, which is calculated using the square root of the sum of each stem squared.
Letters are used to identify trees on neighboring properties with overhanging canopies
Dripline is measured from the center of the tree to the outermost extent of the canopy.

Tree ID	**Code**	**Scientific Name**	**Common Name**	**DSH** (inches)	**DSH Multistem**	**Health Condition**	**Structural Condition**	**Dripline Radius** (Feet)	**Notes**
374	*psme*	*Pseudotsuga menziesii*	Douglas-fir	25.6		good	fair	18.0	kink in trunk at 25 feet indicates tree was previously topped or experienced failure, cedar tree that failed january 2021 adjacent to base, growing on steep slope, signs of water movement on soil surface, tree is approx 80 feet
375	*psme*	*Pseudotsuga menziesii*	Douglas-fir	9.7		good	good	10.0	young tree on HOA property, good health, developing codominant stems at apex of canopy, 25 feet tall, client seeks removal and replacement with species smaller at maturity to maintain views

Notes:
1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

2- See specifications for further requirements related to this detail.



SECTION VIEW

P-X

TREE ON SLOPE 5% (20:1) TO 50% (2:1) - UNMODIFIED SOIL

New Tree Planting

Information on proper practices for planting a tree with a nine-step approach to successful planting and establishment.

Purchasing a tree is an investment, and how well that investment grows depends on the type of tree selected, the location, and the care provided.

When to Plant

- Ideally during the dormant season—in the fall after leaf drop or in early spring before bud break.
- Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth.
- Healthy balled and burlapped or container trees can be planted throughout the growing season.
- In tropical and subtropical climates where trees grow year round, any time is a good time to plant a tree, provided that sufficient water is available.

Planting Stress

Balled-and-burlapped trees lose a significant portion of their root system when dug at the nursery. As a result, trees commonly exhibit what is known as "transplant shock." Transplant shock is a state of slowed growth and reduced vitality following transplanting.

Container trees may also experience transplant shock, particularly if they have circling (girdling) or kinked roots that must be cut. Proper site preparation, careful handling to prevent further root damage, and good follow-up care reduces transplant shock and promotes faster recovery.

Steps to Plant a Tree

Note: *Before you begin planting your tree, be sure you have located all underground utilities prior to digging.* ***811 is the national call-before-you-dig phone number.*** *Anyone who plans to dig should call 811 or go to their state 811 center's website.*

Carefully follow these nine steps to help your tree establish quickly in its new location:

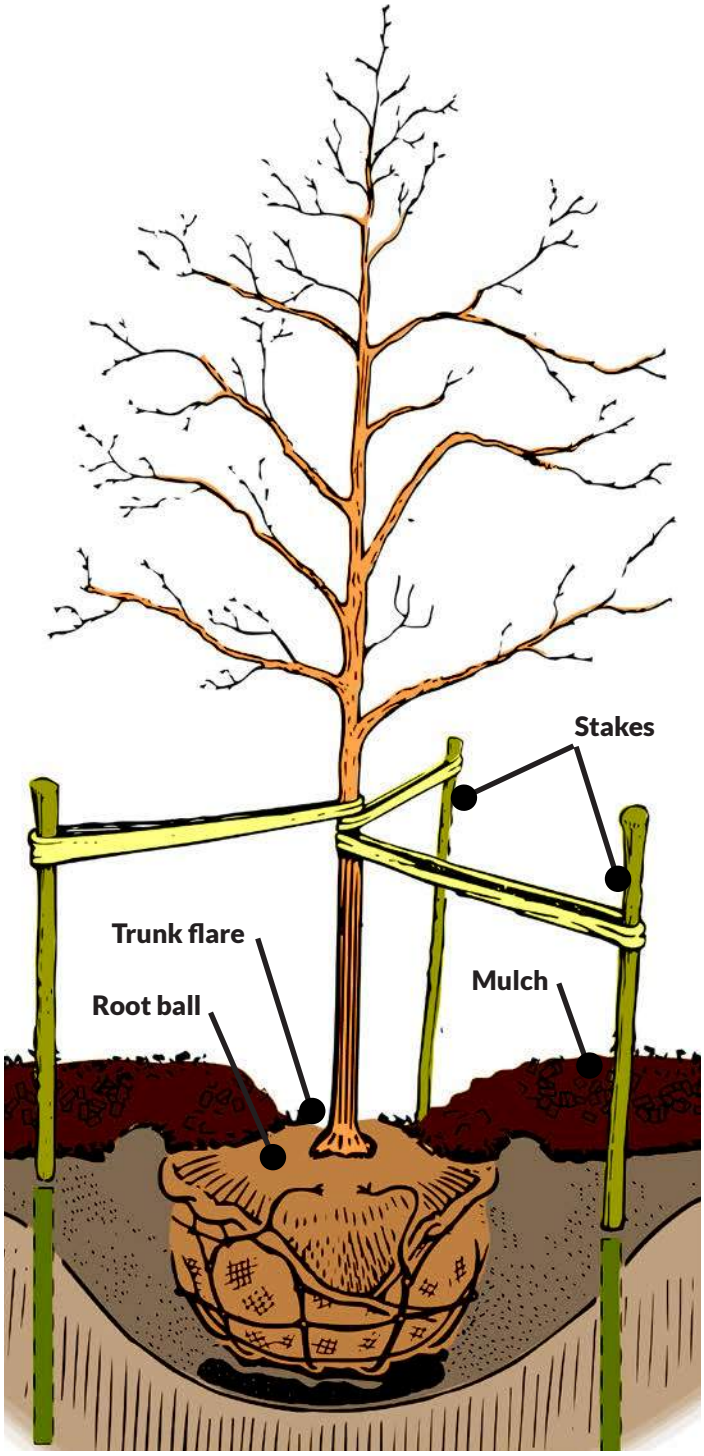
1. The trunk flare is where the trunk expands at the base of the tree. **Ensure trunk flare is partially visible after the tree is planted.** Remove excess soil prior to planting if flare is not visible.
2. Dig a shallow, broad planting hole. **Holes should be 2–3 times wider than the root ball**, but only as deep as the root ball.
3. If wrapped, remove any cover from around the root ball and trunk to facilitate root growth. Remove wire basket or cut one or two rings off so it is low-profile and will not interfere with future root growth. Inspect tree root ball for circling roots and straighten, cut, or remove them. Expose the trunk flare if necessary.
4. Place the tree at the proper height. When placing the tree in the hole, lift by the root ball, not the trunk. The majority of tree's roots develop in the top 12 inches (30 cm) of soil. Planting too deep can be harmful to the tree.
5. Straighten the tree in the hole. Before filling the hole, have someone examine the tree from several angles to confirm it is straight.
6. Fill the hole gently but firmly. Pack soil around the base of the root ball to stabilize it. Fill the hole firmly to eliminate air pockets. Further reduce air pockets by watering periodically while backfilling. Avoid fertilizing at the time of planting.
7. If staking is necessary, three stakes or underground systems provide optimum support. **Studies have shown that trees develop stronger trunks and roots if they are not staked**; however, it may be required when planting bare root stock or on windy sites. Remove stakes after first year of growth.

8. Mulch the base of the tree. Place a 2–3 inch layer of mulch, but be sure not to pile much right against the trunk. **A mulch-free area of 1–2 inches wide at the base of the tree will reduce moist bark and prevent decay.**

9. Provide follow-up care. Keep the soil moist by watering at least once a week, barring rain, and more frequently during hot, windy weather. Continue until mid-fall, tapering off as lower temperatures require less-frequent watering.

Other follow-up care to consider:

- Minor pruning of branches damaged during the planting process may be required.
- Prune sparingly after planting. Delay corrective pruning until a full season of growth.
- If trunk wrapping is necessary, use biodegradable materials and wrap from the bottom.



What Is a Certified Arborist?

ISA Certified Arborists® are individuals who have proven a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care.
ISA Certified Arborists must also continue their education to maintain their certification. Therefore, they are more likely to be up to date on the latest techniques in arboriculture.

Finding an Arborist

Visit TreesAreGood.org for free tools:

- The "Find an Arborist" tool can help you locate an arborist in your area.
- The "Verify a Credential" tool enables you to confirm whether an arborist has an ISA credential.

Be an Informed Consumer

One of the best methods to use in choosing an arborist is to educate yourself about some of the basic principles of tree care. Visit TreesAreGood.org to read and download all brochures in this series.

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Through research, technology, and education, the International Society of Arboriculture promotes the professional practice of arboriculture and fosters a greater worldwide awareness of the benefits of trees.